

S-NBH53

Code(d) **738323**

Code(e) **743320**

Refractive Index n_d	1.73800 1.738000	Abbe Number v_d	32.3 32.26	Dispersion n_F-n_C	0.02287 0.022876
Refractive Index n_e	1.743413	Abbe Number v_e	32.03	Dispersion n_F-n_C'	0.023207

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.69016
n_{1970}	1.97009	1.69693
n_{1530}	1.52958	1.70457
n_{1129}	1.12864	1.71215
n_t	1.01398	1.71496
n_s	0.85211	1.72021
$n_{A'}$	0.76819	1.72401
n_r	0.70652	1.72762
n_C	0.65627	1.73131
$n_{C'}$	0.64385	1.73236
$n_{\text{He-Ne}}$	0.6328	1.73334
n_D	0.58929	1.73780
n_d	0.58756	1.73800
n_e	0.54607	1.74341
n_F	0.48613	1.75418
$n_{F'}$	0.47999	1.75556
$n_{\text{He-Cd}}$	0.44157	1.76585
n_g	0.435835	1.76768
n_h	0.404656	1.77951
n_i	0.365015	1.80125

Partial Dispersions	
n_C-n_t	0.016351
$n_C-n_{A'}$	0.007295
n_d-n_C	0.006691
n_e-n_C	0.012104
n_g-n_d	0.029679
n_g-n_F	0.013494
n_h-n_g	0.011832
n_i-n_g	0.033567
n_C-n_t	0.017398
$n_e-n_{C'}$	0.011057
$n_{F'-n_e}$	0.012150
$n_{F'-n_{F'}}$	0.045683

Relative Partial Dispersions	
$\theta_{C,t}$	0.7148
$\theta_{C,A'}$	0.3189
$\theta_{d,C}$	0.2925
$\theta_{e,C}$	0.5291
$\theta_{g,d}$	1.2974
$\theta_{g,F}$	0.5899
$\theta_{h,g}$	0.5172
$\theta_{i,g}$	1.4673
$\theta'_{C,t}$	0.7497
$\theta'_{e,C'}$	0.4765
$\theta'_{F',e}$	0.5235
$\theta'_{i,F}$	1.9685

Thermal Properties	
Strain Point StP (°C)	527
Annealing Point AP (°C)	547
Transformation Temperature Tg (°C)	578
Yield Point At (°C)	620
Softening Point SP (°C)	688
Expansion Coefficients (-30~+70°C)	69
α (10 ⁻⁷ /°C) (+100~+300°C)	89
Thermal Conductivity k (W/m-K)	1.117

Coloring			
λ_{80}	39	λ_5	33
λ_{70}			

Internal Transmittance	
$\lambda(\text{nm})$	$\tau_{10\text{mm}}$
280	
290	
300	
310	
320	
330	0.03
340	0.17
350	0.52
360	0.74
370	0.85
380	0.915
390	0.947
400	0.965
420	0.981
440	0.986
460	0.988
480	0.991
500	0.993
550	0.997
600	0.997
650	0.997
700	0.998
800	0.999
900	0.999
1000	0.999
1200	0.999
1400	0.996
1600	0.996
1800	0.990
2000	0.985
2200	0.952
2400	0.949

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0168
$\Delta\theta_{C,A'}$	0.0040
$\Delta\theta_{g,d}$	-0.0003
$\Delta\theta_{g,F}$	0.0006
$\Delta\theta_{i,g}$	0.0124

Mechanical Properties	
Young's Modulus E (10 ⁸ N/m ²)	1031
Rigidity Modulus G (10 ⁸ N/m ²)	417
Poisson's Ratio σ	0.236
Knoop Hardness Hk[Class]	600 6
Abrasion Aa	114
Photoelastic Constant β (nm/cm/10 ⁶ Pa)	

Constants of Dispersion Formula	
A ₁	1.65828340E+00
A ₂	2.63275666E-01
A ₃	2.10142759E+00
B ₁	1.13872516E-02
B ₂	5.22108137E-02
B ₃	1.65523649E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	1
Weathering Resistance(Surface) Group W(S)	2
Acid Resistance(Surface) Group SR	1.0
Phosphate Resistance PR	1.0

Other Properties	
Bubble Quality Group B	
Specific Gravity d	3.28
Remarks	

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	dn/dt relative (10 ⁻⁶ /°C)						
	t	C'	He-Ne	D	e	F'	g
-40~20	4.1	4.9	5.0	5.3	5.6	6.4	7.4
-20~ 0	4.1	5.0	5.0	5.3	5.7	6.6	7.6
0~20	4.1	5.0	5.1	5.4	5.8	6.7	7.8
20~40	4.1	5.1	5.2	5.5	5.9	6.9	8.0
40~60	4.2	5.2	5.2	5.5	6.0	7.0	8.2
60~80	4.2	5.2	5.3	5.6	6.1	7.2	8.4